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Remarks:

In the present office action, the Examiner rejected Claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over EP 0357090 (the "'090 Patent") in view of U.S. Patent No. 4,637,406 to Guinn et al. ("Guinn"). The Applicants respectfully disagree.

Original Claims 1-4:

As a general overview and in reference to the figures of the present invention, it can be seen that the present invention comprises a combine harvester having separate chaff and crop residue discharge openings 10, 12, respectively, located at the rear end of the combine harvester. The combine harvester further includes a chopper 16 for cutting the crop residue into small pieces, and a horizontal chaff discharge device 14 for dispersing the chaff exiting from the chaff discharge opening 10 laterally away from the combine harvester. The chaff discharge device 14 is movable between a first position 14a in which chaff can fall to the ground without passing through the chaff discharge device to lie in a string behind the combine harvester, a second position (shown in bold lines) in which the chaff passes through the chaff discharge device and is dispersed laterally away from the combine harvester, and a third position 14b in which chaff leaving the chaff discharge device 14 is forcefully directed to enter the chopper 16 through an opening that is different from the opening through which the crop residue is admitted into the chopper 16. Thus, position 14b allows the chaff discharge device, without the aid of any additional external forces, to forcefully blast a suspension of chaff into the chopper 16, the chaff maintaining its momentum from the chaff discharge device and cleaning the blades of the

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chopper of any crop residue adhering thereto, while assisting the chopper in dispersing the chopped crop residue.

In contrast, each of '090 Patent and Guinn teach away from the present invention. First, for example, while the '090 Patent does disclose a combine harvester having a horizontal chaff spreader, as noted by the Examiner, it does not teach or contemplate "that the chaff discharge device has a third position in which the chaff is directed to enter the chopper through an opening that is different than the opening through which the crop residue enters the chopper." Accordingly, the '090 Patent teaches away from the present invention.

Guinn also teaches away from the present invention. As detailed within the "Summary of the Invention" section, Guinn discloses only a combine harvester having a fixed vertical chaff discharge device and a common chopper. As mentioned above, Guinn's chaff discharge device of Guinn is both fixed and vertically oriented, both of which terms are well known to those of ordinary skill in the chaff discharge device art. Thus, as dictated by Guinn, chaff emanating from the shaker tables must always first pass through the chaff discharge device. Upon entry into the chaff discharge device, a booster fan propels the chaff in one, and only one, fixed direction--toward the chopper, which is located under the rear of the combine harvester. Guinn contemplates no other direction of chaff flow; the chaff is only propelled toward the chopper where it is admixed with crop residue from the straw walkers of the combine harvester.

Guinn's chopper includes a housing having special curvilinear walls. The curvilinear walls create suction into the chopper by assuring that any air slipping past the chopper is redirected back into the spinning rotor of the chopper so as to create low pressure suction. Thus, in operation, the booster fan of the chaff discharge devices directs chaff particles in the direction

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of the chopper. As the chaff particles approach the chopper they lose momentum. At that time, the low pressure suction created by the curvilinear walls of the chopper housing draw the chaff particles into the chopper to be processed and admixed with the crop residue. Thus, the chaff particles are not blasted into the chopper by the chaff discharge device but are passively drawn in by the low pressure suction created by the curvilinear walls of the chopper housing.

It is thus clear that Guinn teaches away from the present invention in numerous aspects. First, the vertical chaff discharge device of Guinn teaches directly away from the horizontal chaff discharge device of the present invention. As discussed within the Specification in Paragraph 5, it is very important that the chaff discharge device spread discharged chaff laterally away from the combine harvester to reduce the risk of fire, which can occur when chaff passes against or near heated areas of a large combine harvester. Guinn specifically teaches away from this principle as its chaff discharge device is positioned vertically and can thus only discharge chaff in-line and underneath the combine harvester, thus leaving open the possibility of fire from its chaff discharge very near or even against the heated underside of the combine harvester.

Second, the fixed chaff discharge device of Guinn teaches away from the multi-positional, movable discharge device of the present invention. As specifically stated throughout the claims and Specification, an important objective of the present invention is to provide a horizontal chaff discharge device for dispersing chaff exiting from a chaff discharge opening laterally away from the combine harvester, wherein the chaff discharge device is movable between a first position in which chaff can fall to the ground without passing through the chaff discharge device to lie in a string behind the combine harvester, a second position in which the chaff passes through the chaff discharge device and is dispersed laterally away from the combine

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harvester, and a third position in which chaff leaving the chaff discharge device is directed to enter the chopper through an opening that is different from the opening through which the crop residue is admitted into the chopper. As previously mentioned, the chaff discharge device of Guinn is fixed and thus contemplates only one position and only one type of chaff dispersal—delivery of chaff particles solely to the combine harvester's chopper for admixture of the chaff with the crop residue and dispersal to the field below.

Finally, Guinn teaches away from the present invention's inherent chopper cleaning characteristics. As discussed within Paragraph 12 of the Specification of the present invention, the Applicants' horizontal chaff discharge device produces a blast containing a suspension of fine chaff that cleans the chopper blades of any adhered crop residue in addition to assisting the chopper in dispersing the chopped crop residue. The present invention does not employ any additional chaff propulsion means, such as a booster fan or low pressure suction system.

In contrast and unlike the present invention, the chaff discharge device of Guinn, by itself, fails to sufficiently propel the chaff particles into the chopper. Thus, Guinn is forced to rely upon a booster fan and specially constructed air directing walls, which create low pressure suction for induction of the chaff particles into the chopper. Such a passive system, which uses suction to bring the chaff flow into the chopper, fails to provide the inherent chopper blade cleaning benefits of the present invention. In accordance with the preceding remarks, it is thus submitted that Guinn, like the '090 Patent, also teaches away from the present invention.

Regardless of the above, combination of Guinn with the '090 Patent in an attempt to modify the '090 Patent to teach the present invention would severely alter the principle of operation of the '090 Patent and render it inoperable and unsatisfactory for its intended use. For

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example, as previously noted, the chaff discharge of Guinn is vertical while the chaff discharge device of the '090 Patent is horizontal. Modifying the chaff discharge device of the '090 Patent to incorporate the vertical chaff discharge device embodiment of Guinn would change the principle operation of the '090 Patent's discharge device—the ability to laterally disperse chaff material away from the combine harvester—and render it inoperable for its intended purpose.

As also previously discussed, the chaff discharge device of the '090 Patent is movable and pivotal, which allows it be placed in a first position in which chaff can fall to the ground from the combine harvester without passing through the chaff discharge device and a second position in which chaff passes through the chaff discharge device and is dispersed laterally away from the combine harvester. However, combining Guinn with the '090 Patent to modify its movable chaff discharge device would destroy the versatility of the '090 Patent by disallowing the combine harvester to (1) process chaff directly to the harvested field in a string or to (2) disperse chaff through lateral spreading by the chaff discharge device. In short, modification of the '090 Patent by Guinn would change the principle of operation of the '090 Patent and render it inoperable and unsatisfactory for its intended use.

In light of the above teachings of the '090 Patent and Guinn, it is clear that one of ordinary skill in the art would find no teaching, suggestion, or motivation for their combination to teach what is disclosed by the present invention. Accordingly, there can be no teaching within the '090 Patent and Guinn for their combination. It is therefore submitted that the '090 Patent and Guinn are inappropriate Section 103(a) references and should be removed. It is thus believed that independent Claim 1 is patentable and nonobvious over the '090 Patent in view of

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Guinn. Furthermore, Claims 2-4, which depend from Claim 1 are also believed to be patentable as depending from an allowable base claim.

New Claims 5-8:

New Claims 5-8 are substantially similar to original Claims 1-4 and, as such, do not add any new matter. More specifically, new Claims 5-8 have been added to further clarify and particularly point out what the Applicants view as their invention and are not submitted in response to an Examiner rejection or "for reasons related to patentability." Accordingly, it is submitted that new Claims 5-8 are distinguishable and non-obvious over both the '090 Patent and Guinn or any combination thereof and are allowable and in condition for allowance.

In summary, and in light of the Applicants' Remarks and newly added claims, it is believed that Claims 1-8 are patentable and in condition for allowance. Therefore, favorable reconsideration of the application is respectfully requested. Should the Examiner believe that the prosecution of the application could be so expedited, he is requested to call Applicants' undersigned Attorney at the number listed below.

Respectfully submitted:

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